

Biographies of Phasmatologists – 1. Henry Walter Bates.

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Abstract

Henry Walter Bates (1825-1892) was an explorer and prolific entomologist. Although he published only one paper on phasmids, it was a significant paper, increasing the number of known species by 10%. An index to the 52 species of phasmids described by Bates is provided.

Key words

Phasmida, Phasmatologist, H.W. Bates, Biography.

Henry Walter Bates (1825-1892)

Henry Walter Bates, an English naturalist and explorer, was born in Leicester on 8th February 1825. At the age of thirteen he became apprentice to a hosier. He studied in his spare time, and collected insects in Charnwood Forest. In 1843 he published a short paper on beetles in *The Zoologist* magazine. He became friends with Alfred Russel Wallace, who was also a keen entomologist, and after reading William H. Edwards' book on his Amazon expedition they decided to visit the region themselves.

On May 28th 1848, they arrived at Pará, Brazil, near the mouth of the Amazon River.

Wallace returned in 1852, but lost his collection in a shipwreck. Bates stayed in South America and explored almost the entire Amazon valley. When he arrived home eleven years later, in 1859, he had sent back

over 14,000 species (mostly insects) of which 8,000 were new to science. Henry Bates is also known for his support for Darwin's and Wallace's theory of evolution by natural selection. His own theory of mimicry, which now bears his name (Batesian Mimicry), provided evidence for evolution by natural selection.

After his return to England he worked on Lepidoptera, and later Coleoptera; unable to work on both at once, he sold his Lepidoptera and subsequently concentrated mostly on cerambycids, carabids, and cicindelids, describing many hundreds of new species. In 1861 he married Sarah Ann Mason. From 1864 onwards, he worked as assistant secretary of the Royal Geographical Society. In 1865 he published a paper entitled *Descriptions of fifty-two new species of Phasmidae from the collection of Mr. W. Wilson Saunders, with remarks on the family*; this was his only paper on phasmids, although there is also a published note of a comment he made on a phasmid paper by Charles King (Bates, 1867). Despite publishing only one paper on phasmids, he increased the number of known species by almost ten percent. Bates was President of the Royal Entomological Society of London 1868-1869 and again in 1878-1879.

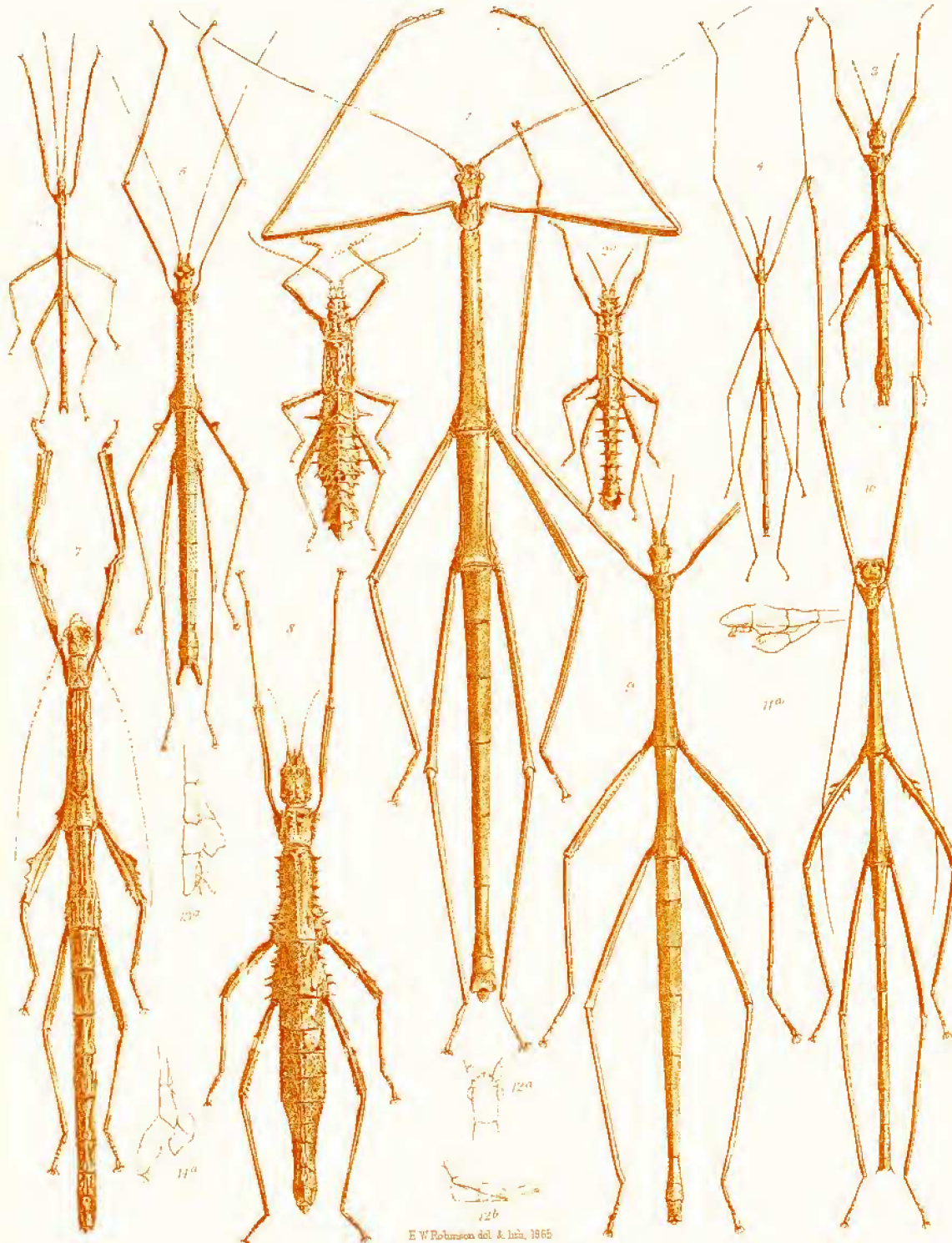
In 1881 he was elected a fellow of the Royal Society. He died of bronchitis on 16th February 1892.



The phasmids of Bates

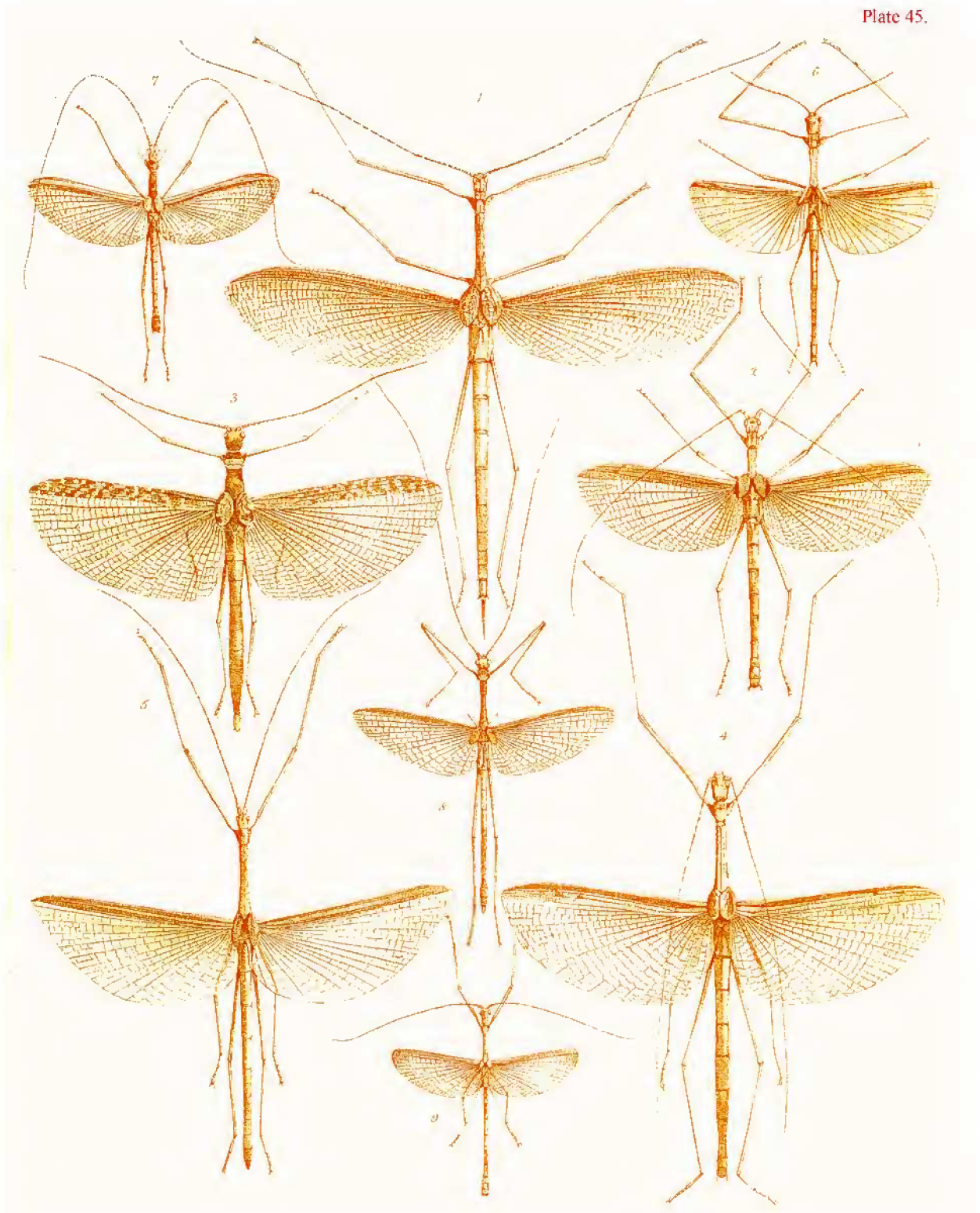
Bates' single paper on phasmids is an important work because in it he described 52 new species, at a time when only 606 phasmid names had been published. Bates (1865: 321) mentions "a total of 540 Phasmidae now known to science" – but quite a few of the 606 published names (Bragg, 1998) were already known to be synonyms, and there were probably some descriptions unknown to Bates.

Plate 44.



The new species were described from specimens in the collection of W.W. Saunders who had built up a collection of specimens by purchasing them from several professional collectors. The majority were collected by Wallace in the Malay archipelago and New

Guinea, with others collected by Mouhot in Cambodia, Nietner in Sri Lanka, Russell in India, Bates in South America, and Guenzius and Gerard in S.E. Africa. Three species: *Acanthoderus mohoutii*, *Bacillus guenzii*, and *Lonchodes russellii*, were named after their



collectors.

In 1873 Mrs Ellen Hope purchased the Saunders collection of orthopteroids and Lepidoptera, a total of 22,133 specimens, including 559 phasmids, for £600 (Smith, 1986: 147). The collection added to the Hope collection at Oxford University Museum (OXUM).

Bates' paper is illustrated with two plates that show 21 of the 52 new species. They

were not drawn by Bates, who comments on the illustration of *Bacillus gramineus*: “The artist has represented the middle legs too long in the figure” (Bates, 1865: 326). Interestingly, I was recently working on some Indian specimens from Manchester Museum (MUME) and took some to Oxford (OXUM) to compare with Bates’ specimen of *Necroscia acutipennis*. The specific name *acutipennis* means pointed wings, which is how they appear in the illustration (pl. 45.5); however, I found that Bates had not noticed that the wings are not fully open: when they are they are not pointed! Manchester Museum contains a number of specimens of both sexes of this species from Southern India, the species was previously only recorded from Sri Lanka, and for which the male is currently undescribed.

The paper is 38 pages long, plus two plates, and suffers from the lack of an index; I have therefore provided an index to species names below.

Index to phasmids described by Bates.

acutipennis (Necroscia)	354, pl. 45.5.	hispa (Lonchodes)	333.
agrionina (Necroscia)	356, pl. 45.9.	janus (Necroscia)	354, pl. 45.4.
amazonica (Bacteria)	330.	lacteipennis (Necroscia)	353.
asperatus (Lonchodes)	339.	laticauda (Bacteria)	329, pl. 44.11a.
aspericollis (Bacillus)	327.	longiceps (Necroscia)	350, pl. 45.6.
auscultator (Lonchodes)	334.	mancus (Dimorphodes)	345, pl. 44.8, 44.3.
calametum (Phibalosoma)	341.	maximum (Phibalosoma)	341.
castaneum (Phasma)	348.	mouhotii (Acanthoderus)	342.
cephalotes (Necroscia)	351.	mustea (Necroscia)	355, pl. 45.8.
comis (Bacteria)	330, pl. 44.12b.	patellifer (Bacillus)	328.
conicipennis (Necroscia)	358.	personatus (Lonchodes)	336, pl. 44.7.
culmus (Bacteria)	331.	phalangodes (Lonchodes)	337.
cyrtocnemis (Bacteria)	329, pl. 44.10.	pictipes (Necroscia)	352.
denticauda (Lonchodes)	336.	putidum (Phasma)	349, pl. 45.2.
dispar (Lonchodes)	337.	quadratum (Phasma)	350.
doreyanus (Lonchodes)	332.	russellii (Lonchodes)	339.
extensum (Phibalosoma)	340.	sakai (Bacteria)	332, pl. 44.1.
flavicornis (Lonchodes)	333.	scytale (Bacillus)	328, pl. 44.9.
forcipatus (Lonchodes)	338.	serricauda (Bacteria)	331, pl. 44.13a.
frondosa (Necroscia)	353.	smaragdula (Necroscia)	357, pl. 45.7.
furcatus (Lonchodes)	335, pl. 44.5, 44.6.	spiniventris (Acanthoderus)	343, pl. 44.2a, 44.2b.
grallator (Lonchodes)	334.	styligera (Necroscia)	355, pl. 45.1.
graminea (Necroscia)	356.	tenebrosa (Necroscia)	357.
gramineus (Bacillus)	326, pl. 44.4.	torquata (Necroscia)	359, pl. 45.3.
gravidus (Acanthoderus)	343.	viridilineata (Necroscia)	352.
guenzii (Bacillus)	327, pl. 44.14a.	westwoodii (Heteropteryx)	345.

Other than his 1865 paper, Bates’ only published contribution to the world of phasmids was made on the 4th March 1867, at a meeting of the Entomological Society of London; Bates (1867: 80) commented that the species reported by Charles King (1867: 78-80) from Jamaica was probably not *Anisomorpha buprestoides*. Bates was correct: King (1867: 79) describes wings on his phasmid.

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